BRIDGEABLE FOUR-CHANNEL POWER AMPLIFIER

AMPLIFICATEUR DE PUISSANCE PONTABLE A QUATRE VOIES

GM-H44

OWNER'S MANUAL
MODE D'EMPLOI

Thank you for purchasing this PIONEER product. It is designed to give you many years of enjoyment.
PIONEER SUGGESTS USING A PROFESSIONAL INSTALLER DUE TO THE COMPLEXITY OF THIS PRODUCT
Please read all instructions and **WARNINGS** in this manual before attempting operation. Should you have any questions contact your nearest Pioneer authorized dealer or installation specialist.

Important
The serial number of this amplifier is written on the bottom of this unit. For your own security and convenience, write it down on the enclosed warranty card. Keep the card handy for future reference.

Nous vous remercions sincèrement pour l'achat de ce produit PIONEER. Cet équipement a été conçu pour vous donner une entière satisfaction durant de longues années.
PIONEER RECOMMANDE D'UTILISER UN TECHNICIEN DE MONTAGE PROFESSIONNEL EN RAISON DE LA COMPLEXITE DE CE PRODUIT.
Il est également recommandé de lire toutes les instructions, et tous les **AVERTISSEMENTS** de ce manuel avant d'opérer cet équipement. Si vous avez des questions, contactez votre fournisseur Pioneer autorisé le plus proche, ou votre spécialiste pour l'installation.

PIONEER®
The Art of Entertainment

Dear Customer:

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion—and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

We Want You Listening For A Lifetime

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

Decible Level	Example
30	Quiet library, soft whispers
40	Living room, refrigerator, bedroom away from traffic
50	Light traffic, normal conversation, quiet office
60	Air conditioner at 20 feet, sewing machine
70	Vacuum cleaner, hair dryer, noisy restaurant
80	Average city traffic, garbage disposals, alarm clock at two feet.

THE FOLLOWING NOISES CAN BE DANGEROUS UNDER CONSTANT EXPOSURE

90	Subway, motorcycle, truck traffic, lawn mower
100	Garbage truck, chain saw, pneumatic drill
120	Rock band concert in front of speakers, thunderclap
140	Gunshot blast, jet plane
180	Rocket launching pad

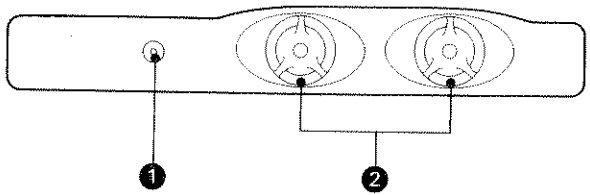
Information courtesy of the Deafness Research Foundation.

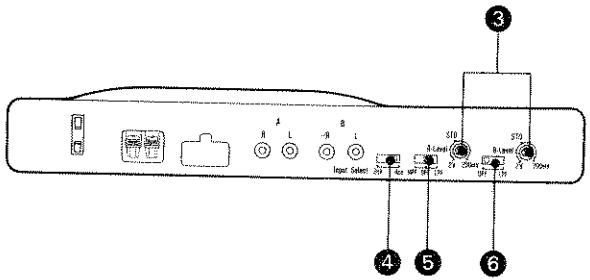
⚠ WARNING

TO PREVENT ELECTRICAL SHOCK, FIRE AND OTHER INJURY, PLEASE NOTE THE FOLLOWING AREAS.

- Before starting the installation make sure to disconnect the vehicle's negative (–) battery power cable. This will prevent possible electrical shock.
- Be sure to use the special (red) battery lead supplied with the amplifier. It is made of heavy gauge wire and contains the appropriately rated fuse (30-amp fuse), so this cable is capable of carrying substantial amounts of current.
- Always replace the fuse in the special (red) battery lead with one that is identical in size and rating (30-amp fuse). This will prevent damage to the amplifier and may prevent a possible fire.
- The speakers must never be grounded to the car chassis or body of vehicle. To do so will cause severe noise problems and can cause damage to the amplifier. If the speaker leads are grounded it will cause the amplifier's short circuit protection to be activated, thereby turning off the audio.
- Amplifiers installed in the passenger compartment should be securely anchored in place.
- Before drilling any mounting holes check behind where you want to drill the holes to make sure you do not drill into anything such as the gas lines, brake lines or electrical wiring.
- Do not install the amplifier anywhere it can get wet.
- Install the amplifier in a location with good ventilation. Do not place anything on top of amplifier to prevent airflow through the unit.
- While driving keep your listening volume at a level which does not mask important outside traffic noises, such as emergency vehicles, etc.
- High sound levels may cause permanent hearing loss.
- This amplifier draws a lot of current. Only use it while the engine is running; otherwise, your battery may go flat.

Controls and their Use





❶ Power Indicator

The power indicator lights when the power is switched on.

❷ Compulsory fan cooling system

This is a high-power amplifier, so it produces a lot of heat. To keep it cool, it has fan cooling.

- When the volume increases, the compulsory cooling fan of this power amplifier works automatically and cools inside of this amplifier.
- Install the amplifier so there is enough space front and back to allow the fan cooling to work properly. If the front or back side is covered, the amplifier may malfunction or fail.

❸ RCA Input Level Control

Adjusting the RCA input level controls A and B will help match the output of the car stereo to the Pioneer amplifier. Input level control A is used to adjust the volume of speaker output A; Input level control B is used to adjust the volume of speaker output B. Normally, set the switch to the "STD" position. If the output is low even when the volume of the car stereo is turned up, turn these controls clockwise. If there is distortion when the volume of the car stereo is turned up, turn these controls counterclockwise.

❹RCA Input Select Switch

For two-channel input slide, this switch to the left. For four-channel input slide, this switch to the right.

❺Speaker Output A HPF (High-Pass Filter)/ LPF (Low-Pass Filter) Select Switch

If you use a tweeter, set this switch to "HPF" (left).
If you use a sub-woofer, set this switch to "LPF" (right).
If you use a full-range speaker, set this switch to "OFF".

❻Speaker Output B LPF (Low-Pass Filter) Switch

If you use a sub-woofer, set this switch to "LPF" (right).
If you use a full-range speaker, set this switch to "OFF".

- For details of how to use switches ❸ to ❻ for each channel. see the section "Connection of speaker leads and input leads" on page 8.

Connecting the Units

Connect the components as shown in the diagram on page 16.

WARNINGS

- When routing leads and cords, secure them with cable retainers and electrician's adhesive tape. Also, to prevent any damage to the insulation on the leads and cords, protect them with electrician's adhesive tape wherever they touch sharp edges. Be sure to use a rubber O-ring grommet when routing wires through metal, such as the firewall between the engine and passenger compartments.
- Keep all wiring away from hot surfaces or heater outlets to prevent short circuits.
- Amplifier ground connections (Black) should only be made to the vehicle's metal body or chassis for safety reasons. The ground circuit carries the same current as the power lead from the vehicle's battery. To get good contact when grounding, sand the metal surface to expose the bare metal. If using multiple amplifiers, connect all amplifier ground leads to the same point to prevent noise problems.
- Always connect the supplied special (red) battery lead directly to the positive (+) terminal of the battery.

- It is recommended that the speakers connected to the amplifier have the minimum ratings shown below. If a speaker has a rating below what is recommended, it may be damaged when the volume is turned up. The speaker impedance must be 2 to 8 ohms.

Mode	Speaker ratings
4-channel	Maximum: 50 W Nominal: 25 W
2-channel	Maximum: 160 W Nominal: 80 W
3-channel	
Speaker output (A)	Maximum: 50 W Nominal: 25 W
Speaker output (B)	Maximum: 160 W Nominal: 80 W

In the case of a full-range speaker, use one whose maximum rating is higher than the maximum rating shown. In the case of a sub-woofer, use one whose nominal rating is higher than the nominal rating shown.

- Never connect a speaker lead to ground or to other speaker grounds. The protection circuitry will operate instantaneously, turning off the amplifier.
- To prevent noise problems, keep the amplifier power leads away from the signal cords (RCA cords) and speaker leads. Also, keep the power leads away from any antenna cords.
- Before finalizing the installation, turn everything on, and make sure everything works correctly and listen for noise in the system.
- For detailed information on connections between different units and the amplifier, use the instruction manuals for the units. It is important to follow their recommendations precisely.

Connecting the special red battery lead

Use the special (red) battery lead supplied with the amplifier. This lead contains the appropriately rated fuse (30-amp fuse). This special (red) battery lead is made of heavy gauge wire so it is capable of carrying substantial amounts of current.

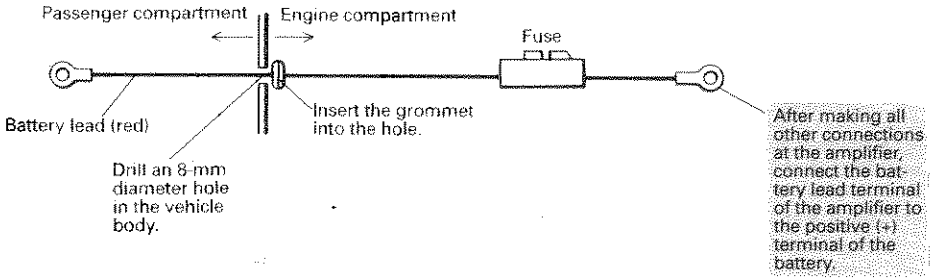
Route the special battery lead from the engine compartment through the firewall or vehicle body to the passenger compartment and connect it to the amplifier.

Drill an 8-mm diameter hole in the firewall or vehicle body and insert an O-ring rubber grommet and pull the battery lead through into the passenger compartment.

Note:
The O-ring rubber grommet is important because it protects the insulation on the battery lead from being worn away from normal vibrations and rubbing against sharp metal edges. Failure to install this grommet could result in a short circuit and fire.

While installing the wires, do not connect the positive (+) lead of the battery until the other leads have been connected. This will prevent accidental shorting to any other wiring or ground.

After making all other connections at the amplifier, connect the battery lead terminal of the amplifier to the positive (+) terminal of the battery.


Passenger compartment
Engine compartment
Fuse
Battery lead (red)
Insert the grommet into the hole.
Drill an 8-mm diameter hole in the vehicle body.
After making all other connections at the amplifier, connect the battery lead terminal of the amplifier to the positive (+) terminal of the battery.

Connection of speaker leads and input leads

The way the speaker leads and RCA input cords are connected depends on the mode used. Either 4-channel mode (2 inputs/4 speakers or 1 input/4 speakers), 2-channel mode (1 input/2 speakers), or 3-channel mode (2 inputs/3 speakers or 1 inputs/3 speakers) can be selected for the speaker output. See Fig. 1-6 for the appropriate way.

4-channel mode, type 1	• Inputs A and B (2 inputs) • 4-speaker (front/rear) output	Fig. 1
4-channel mode, type 2	• Input A (1 input) • 4-speaker (2 stereo pairs) output	Fig. 2
2-channel mode, type 1	• Input A (1 input) • 2-speaker (stereo) output	Fig. 3
2-channel mode, type 2	• Input A (1 input) • 2-speaker (mono) output	Fig. 4
3-channel mode, type 1	• Inputs A and B (2 inputs) • 2-speaker (stereo) plus 1 speaker (mono) output	Fig. 5
3-channel mode, type 2	• Input A (1 input) • 2-speaker (stereo) plus 1 speaker (mono) output	Fig. 6

Fig. 1-When using 4-channel mode type 1

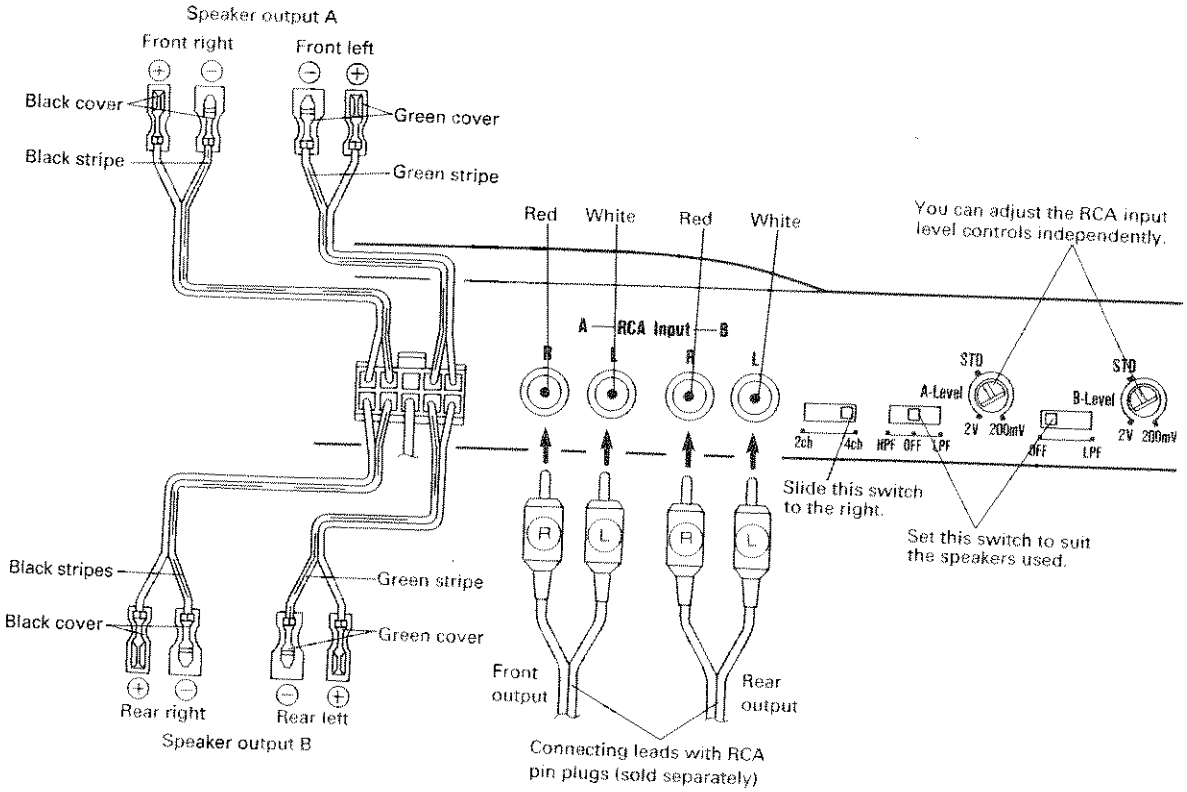


Fig. 2-When using 4-channel mode type 2

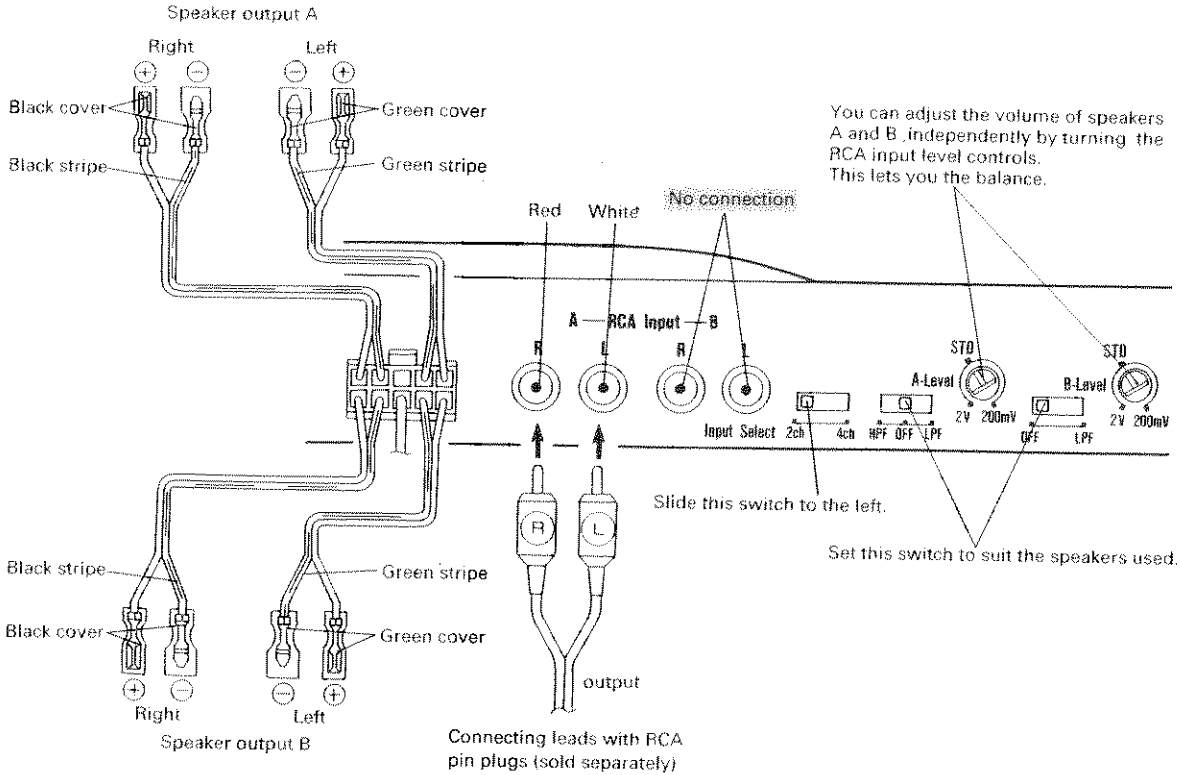
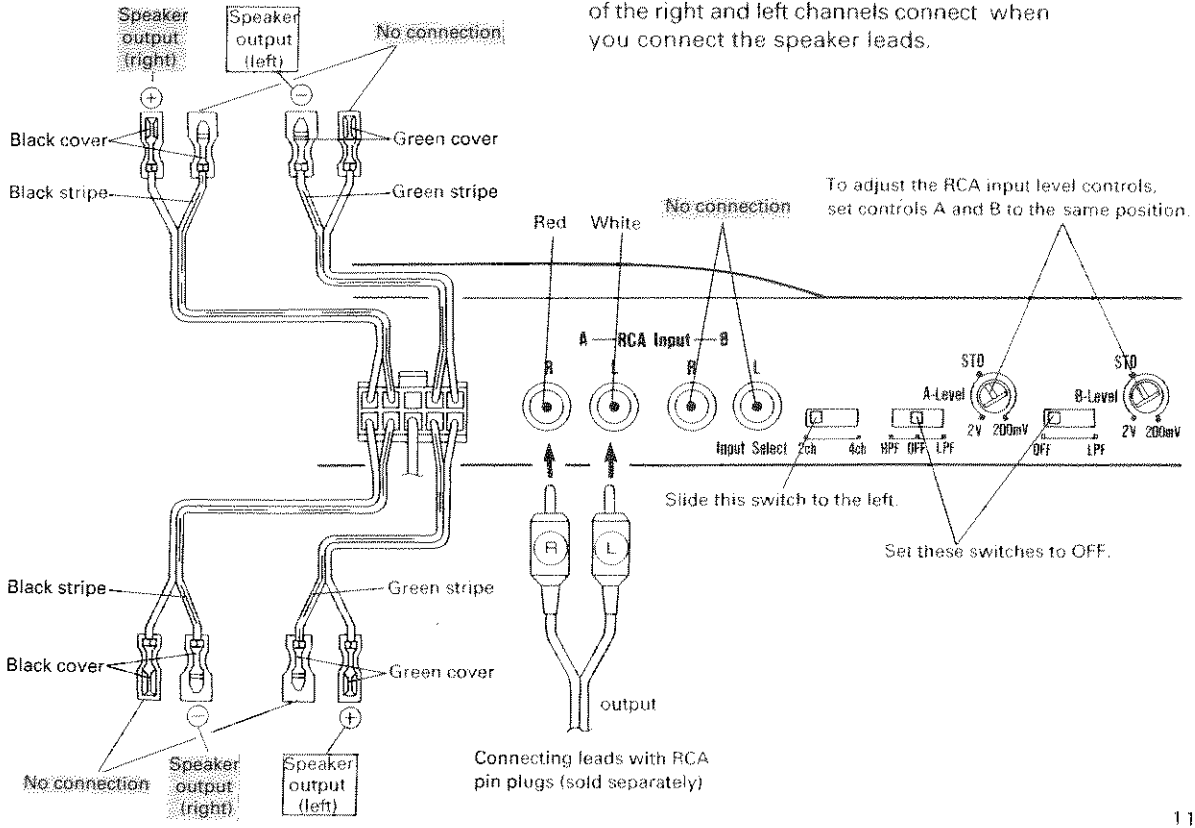


Fig. 3-When using 2-channel mode type 1



- Make sure you get the polarities (⊕ and ⊖) of the right and left channels connect when you connect the speaker leads.

Fig. 4-When using 2-channel mode type 2

- Speaker outputs Mono ① ⊕ and ① ⊖ constitute Mono output ①; outputs Mono ② ⊕ and ② ⊖ constitute Mono output ②. (Two mono outputs are provided).

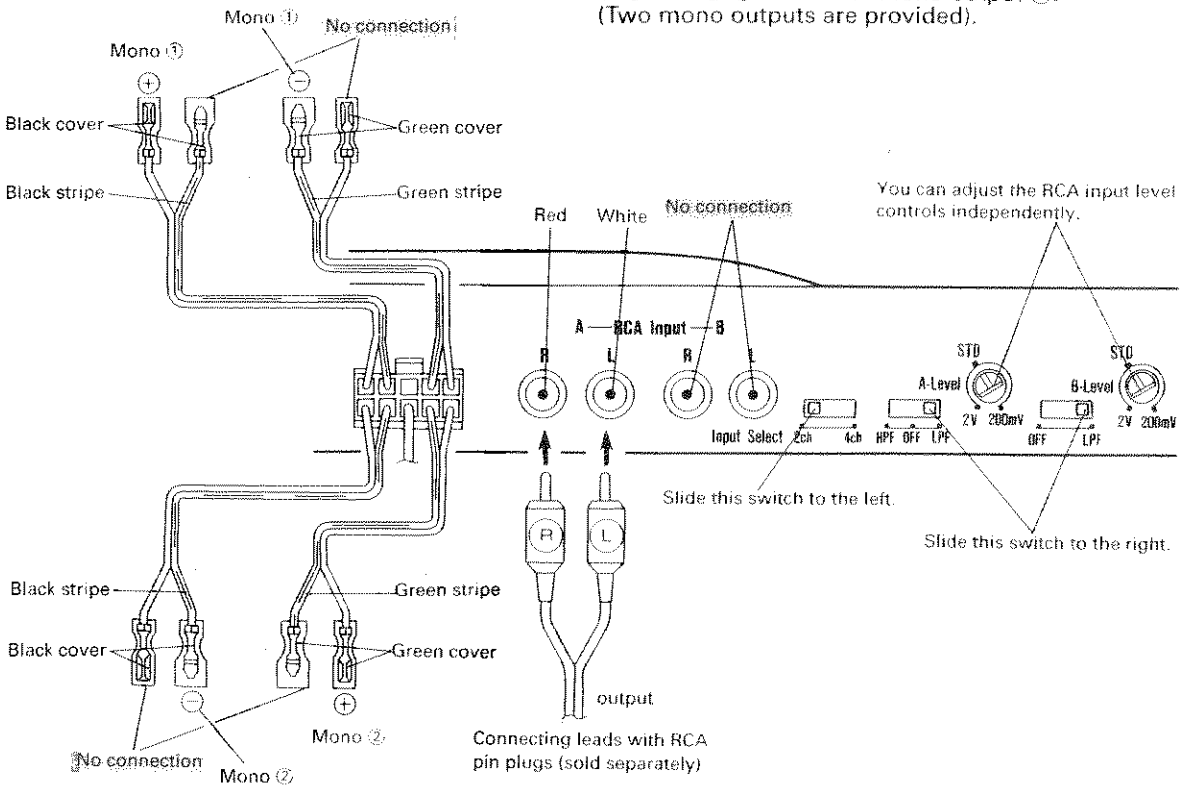


Fig. 5-When using 3-channel mode type 1

- Connect the rear output terminal of the car stereo to RCA input B of the amplifier. (It becomes the mono output for a sub-woofer.)

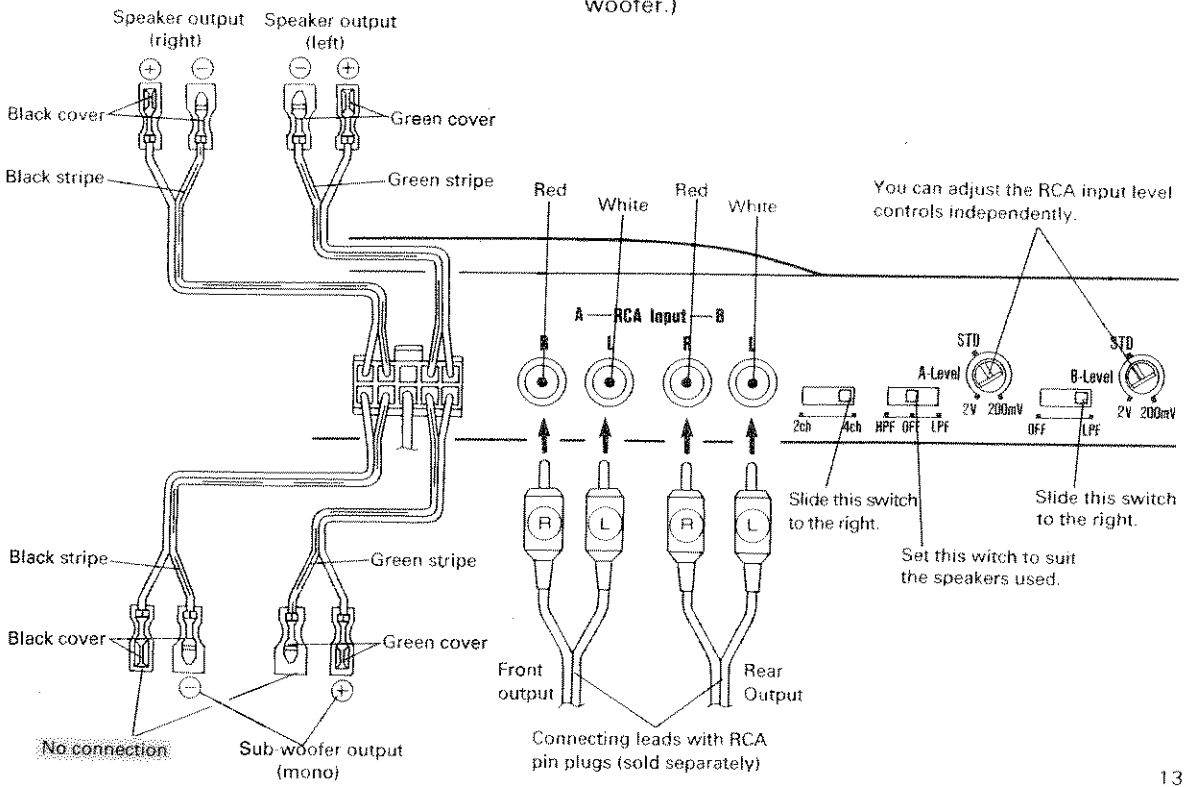
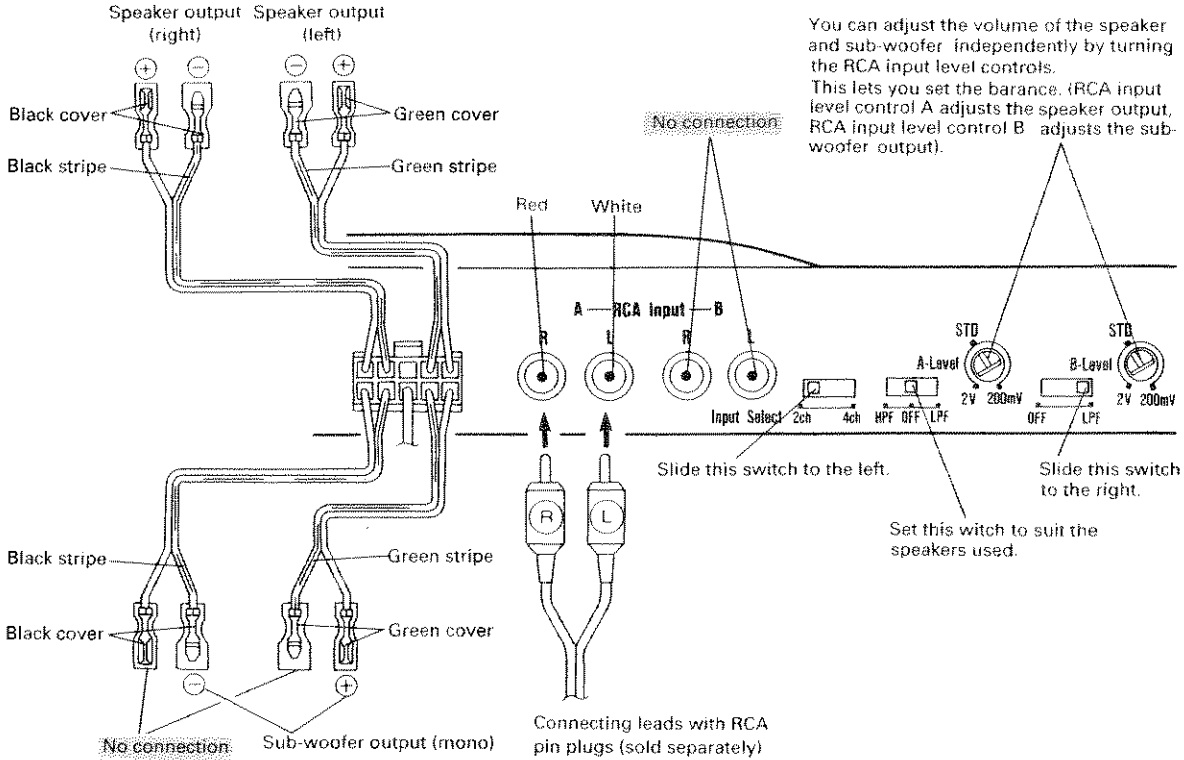


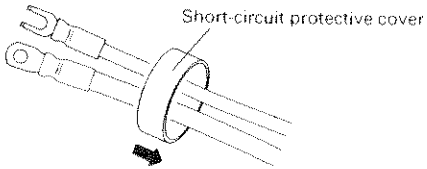
Fig. 6-When using 3-channel mode type 2

- Connect the output of the car stereo to RCA input A of the amplifier.

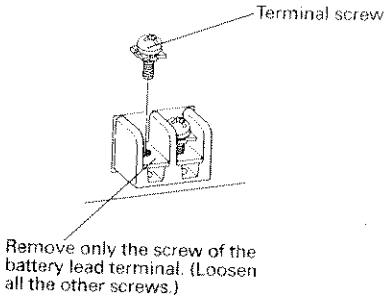


Connection of the battery power and ground leads

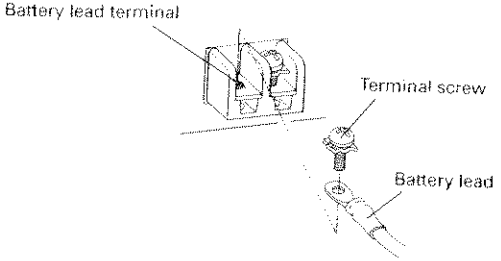
1. Pass the battery power and ground leads through the short-circuit protective cover.
   - This protective cover *must* be used to prevent short-circuits.



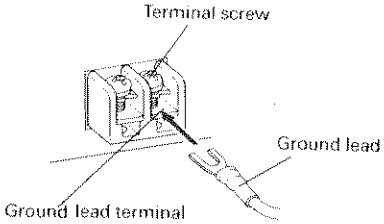
2. Loosen the screws of the terminals on the front of the amplifier.
   - Remove the screw from the battery power terminal.



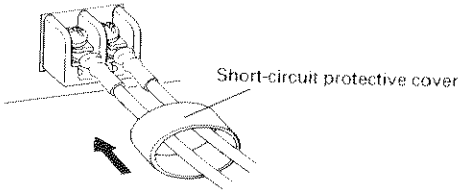
3. Connect the battery lead to the battery lead terminal, reinserting and tightening the screw.

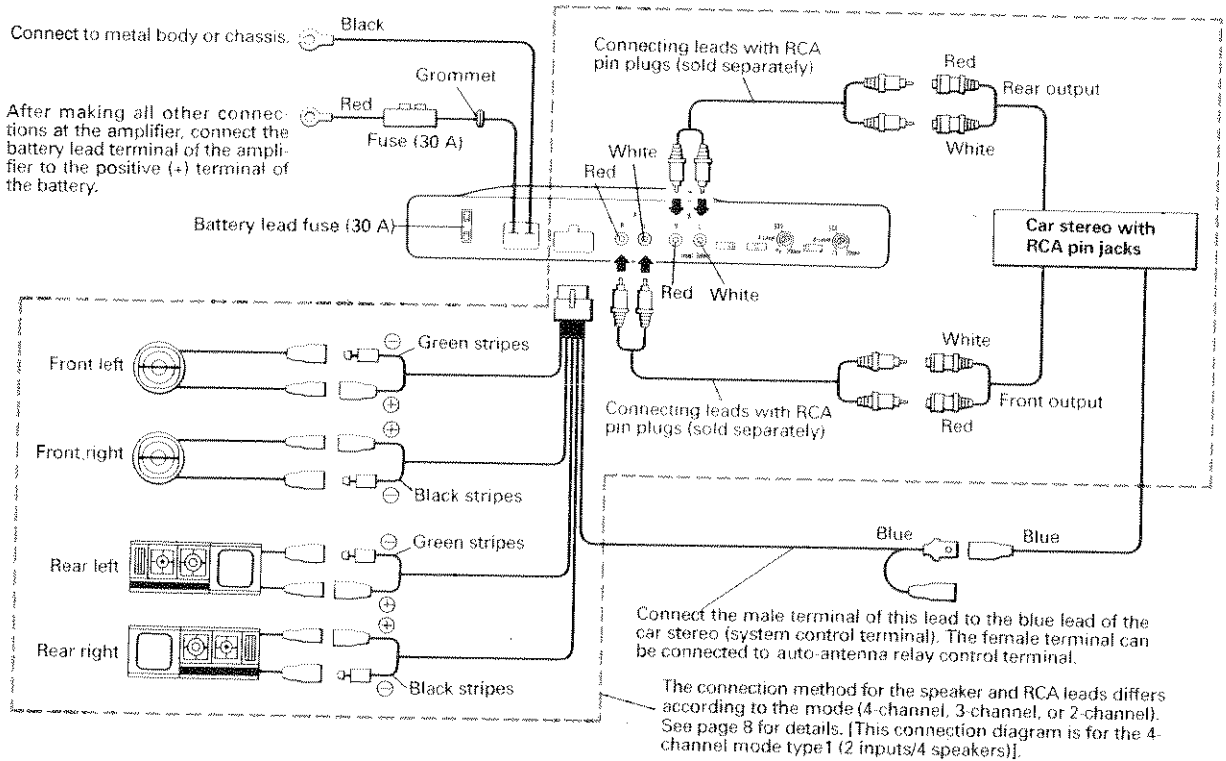


4. Connect the ground lead to the ground lead terminal, tightening the screw.



5. Cover the terminals with a short-circuit protective cover.




Connect to metal body or chassis.
Black
Grommet
After making all other connections at the amplifier, connect the battery lead terminal of the amplifier to the positive (+) terminal of the battery.
Red
Fuse (30 A)
Battery lead fuse (30 A)
Connecting leads with RCA pin plugs (sold separately)
Red
Rear output
White
White
Red
Car stereo with RCA pin jacks
Red
White
Front left
Green stripes
Front right
Black stripes
Rear left
Green stripes
Rear right
Black stripes
White
Front output
Red
Connecting leads with RCA pin plugs (sold separately)
Blue
Blue
Connect the male terminal of this lead to the blue lead of the car stereo (system control terminal). The female terminal can be connected to auto-antenna relay control terminal.
The connection method for the speaker and RCA leads differs according to the mode (4-channel, 3-channel, or 2-channel). See page 8 for details. [This connection diagram is for the 4-channel mode type1 (2 inputs/4 speakers)].

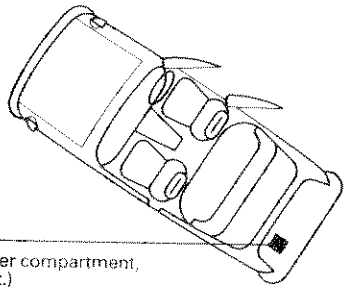
FINAL STEP OF THE INSTALLATION

Finish the installation by reconnecting the vehicle's negative (–) battery lead.

Installation

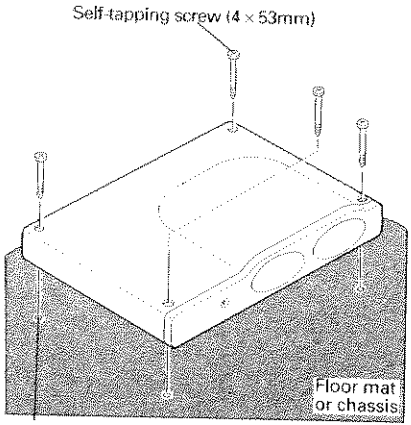
- Install the amplifier where it will not obstruct driving and will not be a danger to passengers in an emergency stop (see page 18 for diagram of possible mounting locations).
- Route all leads and cords carafully around the sliding mechanism so they do not get caught or pinched in the mechanism and cause a short circuit.
- Do not obstruct the air flow through the front and back of the amplifier—for instance, by putting the amplifier under the carpet or a floor mat—otherwise, the amplifier will overheat and possibly fail.
- Do not install the amplifier anywhere it can get wet, otherwise it may give an electric shock if touched.
- To prevent a short circuit, disconnect the negative battery lead before beginning the installation. After installation has been completed and checked, reinstall any components that were moved or removed, then reconnect the lead to the negative battery terminal.
- Before drilling any mounting holes always check behind where you want to drill the holes. Do not drill into the gas line, brake line, electrical wiring or other important parts.
- Use only the parts supplied. These parts are designed to help you securely install the amplifier.
- If mounting the amplifier vertically, buy some 4-mm-diameter screws and nuts, and use them to secure the amplifier firmly, so that it cannot be dislodged by the vibration of the car.

Example of Installation Position



Inside the trunk
(Drill a hole into the passenger compartment, and pass the leads through it.)

1. Place the amplifier where it is to be installed. insert the supplied self-tapping screws (4 × 53mm) into the screw holes. Push on the screws with a screwdriver so they make marks where the installation holes are to go.
2. Drill 3-mm diameter holes at the point marked, and install the amplifier, either on the carpet or directly on the chassis.



Drill 2.5mm diameter holes

Care and Maintenance

WARNING

- When replacing the special battery lead fuse, use one that is identical in size and rating (30-amp fuse). This will prevent damage to the amplifier. Also, this may prevent a possible fire.

- Do not use the amplifier at high volumes for a long periods of time with the engine off or idling. At high volumes this amplifier can draw enough current from the battery which may make it difficult to start your engine.
- If a malfunction occurs, the protection circuitry will operate instantaneously by turning off the amplifier. If this happens, disconnect the power to the car stereo system. Check the wiring for the possible cause of problem. Fix the problem before reconnecting power to the car stereo system.
- For most cars, the existing battery and charging system will handle a single amplifier. Although this amplifier requires a maximum current consumption of 30 amp. Please be cautious about using this amplifier in a vehicle with a weak battery or a weak charging system. Consult your Pioneer dealer and or installation specialist for further details.

In Case of Problems

If the amplifier will not operate properly, contact your Pioneer dealer and or nearest authorized Pioneer service station.

Specifications

Power source	14.4 V DC (10.8 - 15.6 V allowable)
Grounding system	Negative type
Current consumption	14.4 A (at continuous power, 4Ω)
Average current drawn*	4.5 A (4Ω for four channels)
	9.5 A (4Ω for two channels)
Fuse	30 A
Dimensions	310 (W) × 40 (H) × 220 (D) mm
	[12 - 1/4 (W) × 1 - 5/8 (H) × 8 - 5/8 (D) in.]
Weight	2.2 kg (4.8 lbs.)(Leads for wiring not included)
Maximum power output	
	50 W × 4+160 W × 2/50 W × 2 + 160 W × 1 (EIAJ)
Continuous power output	
	25 W × 4/30 W × 2 (at 4Ω, 20 - 20,000 Hz, 0.05% THD)
	40 W × 4 (at 2Ω, 20 - 20,000 Hz, 0.8% THD)
Load impedance	4Ω (2 - 8Ω allowable)
Frequency response	10 - 50,000 Hz (+0 dB, -1 dB)
Signal-to-noise ratio	102 dB (IHF - A network)
Distortion	0.003% (at 10 W, 1 kHz)
Separation	64 dB (1 kHz)
Input level	0.2 - 2 V /22 kΩ

These specifications were determined and are presented in accordance with specification standards established by the Ad Hoc Committee of Car Stereo Manufacturers.

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

***Average current drawn**

The average current drawn is nearly the maximum current drawn by this unit when an audio signal is input. Use this value when working out total current drawn by multiple power amplifiers.

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